

UNIVERSITY OF CALIFORNIA  
COLLEGE OF AGRICULTURE  
AGRICULTURAL EXPERIMENT STATION  
BERKELEY, CALIFORNIA

SERIES ON CALIFORNIA CROPS AND PRICES

# BARLEY

E. W. BRAUN

---

BULLETIN 512

APRIL, 1931

---

CONTRIBUTION FROM THE  
GIANNINI FOUNDATION OF AGRICULTURAL ECONOMICS

UNIVERSITY OF CALIFORNIA PRINTING OFFICE  
BERKELEY, CALIFORNIA

## CONTENTS

	PAGE
Summary.....	3
The general situation.....	6
Trend of barley production in California.....	6
Distribution of barley production in California.....	6
Disposition of barley in California.....	8
Barley exports from California.....	9
Trend of barley exports by water from California.....	9
Exports by countries of destination.....	9
Seasonal exports from California.....	10
World barley competition in the United Kingdom.....	10
Barley prices.....	13
Factors affecting barley prices at San Francisco.....	13
Price of export barley.....	16
Seasonal movement of barley prices.....	19
Trend of world barley production by principal countries.....	20
Acknowledgments.....	23
Appendix of tables.....	24

# BARLEY<sup>1</sup>

E. W. BRAUN<sup>2</sup>

---

## SUMMARY

The California barley industry is directly affected (1) by changes in the supply of barley, (2) by the demand for barley as a feed, and (3) by the demand for export barley used primarily for malting purposes. Barley enters into international trade from many parts of the world. The principal centers of production are north central United States, southern Russia, central Europe, Canada, British India, northern Africa, southern Spain, Chile, and California.

Feeding and malting are the principal uses for barley. The malting trade requires a thin-skinned barley that is bright, plump, and mellow, a combination of characteristics that is difficult to attain. Because California is one of the principal sources of high-grade malting barley, the malting trade of the United Kingdom imports large quantities of barley from California.

Barley production in California reached its height during 1910-1914 with an average of 980,000 tons; during the five years 1926-1929 it averaged 740,000 tons. Although barley is grown widely throughout the state, the principal districts are the Sacramento Valley, the San Joaquin Valley, the south central coast counties of Monterey, San Luis Obispo, and Santa Barbara and the southern counties. The total barley tonnage in California is not likely to change materially for several years, provided there is no great change in the quantity exported.

Common Coast, Tennessee Winter, Club Mariout, and Atlas are the varieties most common in the state. Atlas is relatively new and is gaining appreciably in importance because of its high yields and good quality.

Before the War California barley exports by water amounted to only 130,000 tons, or 16 per cent of the total barley production of the state. Since 1920 California has exported by water between one-third and one-half of its production; the average during 1926-1929

---

<sup>1</sup> Paper No. 17. The Giannini Foundation of Agricultural Economics.

<sup>2</sup> Extension Specialist in Agricultural Economics and Associate on the Giannini Foundation.

amounted to 250,000 tons, or 34.5 per cent of the average production. Of this, 218,000 tons, or 87 per cent, went to the United Kingdom, the remaining 32,000 tons, or 13 per cent, was taken by other countries.

On the average 66 per cent of the California exports are shipped during the six months July–December. August is the month of heaviest shipments and April tends to be the month of lightest shipments.

In Europe, particularly in the United Kingdom, California barley comes in direct competition with barley from many other countries. The principal competition since 1920 has been from Canada, Russia, western Asia, Chile, and northern Africa. During 1926–1929 these countries furnished 46 per cent of the import supplies of the United Kingdom, whereas California, the principal single source, furnished 28 per cent of the import supplies. A large proportion of the barley from certain other countries is used only as feed. Information as to the quantity is not available. However, prices of feed barley and malting barley tend to go up and down together, even though the price of malting barley is considerably above the price of feed barley. Imports from Canada into the United Kingdom are not likely to increase materially in the near future because climatic conditions in Canada are not favorable to the production of high-quality malting barley. The keenest competition in the near future is likely to come from Russia.

World barley production has expanded at an unusual rate since 1920. For 1920–1922 the average production, exclusive of China, was 1,436,000,000 bushels, and for 1927–1929 it was 1,896,000,000 bushels, which is an increase equivalent to 4.5 per cent a year. A considerable amount of this increase is in the nature of a recovery from the curtailment of production which took place in Europe between 1914 and 1919. During the next few years the trend of world barley production is most likely to be determined by the combined production of the United States, Russia, and Canada. In the United States production will probably be irregular, but in Russia and Canada production will probably increase.

The year-to-year changes in the price of California barley are primarily the result of the operation of four factors: the size of the California barley crop, the supply of concentrate feeds in the United States, the demand for barley as a feed, and the demand for barley for export. Before and during the War the price of barley at San Francisco averaged lower than the Minneapolis price. Since the War the level of the price of feed barley at San Francisco has been above the price of feed barley at Minneapolis. This arises from the fact that

California does not produce enough grain to meet its feeding requirements and export demand. We must, therefore, draw on outside sources for feed grains.

There is no uniform seasonal movement of barley prices in California. During five of the nine seasons 1921-1929 the trend of prices during the season was upward, and during four of the seasons the price during the spring months was below those of midwinter. Usually there is a rise in prices from autumn to the end of winter; then if climatic conditions are favorable and point to a large yield for the coming season, prices fall during the spring months; but if conditions point to low yields for the coming year, prices during the spring months tend to continue upward.

Barley prices during the next five years cannot be expected to average as high as they have during the ten years 1921-1930, because production in Russia is likely to expand very rapidly until the pre-war level or even a higher level has been reached, provided governmental stability is maintained. The United States is the only important barley-producing country in which the upward trend of production appears to have been checked.

Should Russia again regain the barley trade with the United Kingdom that it possessed before the War, California barley prices would probably be materially lower because exports from California would probably be less. Should California exports decrease to such an extent that domestic supplies would be more than enough to meet the requirements for barley as feed, it is very probable that the San Francisco price would again go below barley prices in eastern terminal markets of the United States.



### THE GENERAL SITUATION

Barley is produced on a commercial basis in many parts of the world, and like wheat it enters into international trade, but on a much less extensive scale. The principal centers of production are north central United States, southern Russia, central Europe, Canada, British India, northern Africa, southern Spain, Chile, and California. Because barley has a relatively short growing season, it does well in high latitudes where summers are short and in semi-arid regions where the rainy season is of short duration. It is produced principally for feeding and for malting; to a minor extent it is used for human consumption. Among the feeds barley competes most directly with corn in the feeding of swine, dairy cattle, and poultry. The brewing and distilling trades require malt made from thin-skinned, bright, plump, and mellow barley, a combination of qualities not readily attained. California is one of the principal sources of high-grade malting barley, and it is for this reason that the United Kingdom draws heavily upon California for its supply. The California barley industry is, therefore, directly affected by changes in the demand for barley as a feed and changes in the demand for export barley, which is used almost wholly for malting.

### TREND OF BARLEY PRODUCTION IN CALIFORNIA

Barley production in California, as is shown in figure 1, expanded rapidly until 1910. Since then production has declined to a level comparable to that of 1901–1909. In 1910 California produced 46.5 million bushels, or slightly more than one million tons. In recent years California barley production has fluctuated between 700,000 and 800,000 tons, the 1926–1930 average being 740,000 tons. The harvest of 1924 was only 400,000 tons, a tonnage abnormally low because of the unusually short rainfall for the growing season of 1923–24. At present there are no influences apparent that indicate the likelihood of a material change in the volume of barley production in California for several years.

### DISTRIBUTION OF BARLEY PRODUCTION IN CALIFORNIA

Barley is widely grown in California. There are, however, three fairly distinct regions: first, the Sacramento Valley; second, the San Joaquin Valley; third, the three coast counties of Monterey, San

Luis Obispo, and Santa Barbara. The extreme southern counties of Imperial and San Diego also produce barley on a commercial scale.

The Sacramento Valley ranks ahead of the other regions in both quantity and quality, its production being slightly more than 50 per cent of the total barley tonnage of the state. The export trade offers an outlet for a large proportion of the barley from the Sacramento Valley because in general the barley from this section is mellowier than that from other sections of the state. The San Joaquin Valley produces about 33 per cent of the total tonnage; of this only a small percentage is exported. The major portion finds a market locally and

BARLEY PRODUCTION IN CALIFORNIA, 1885-1930

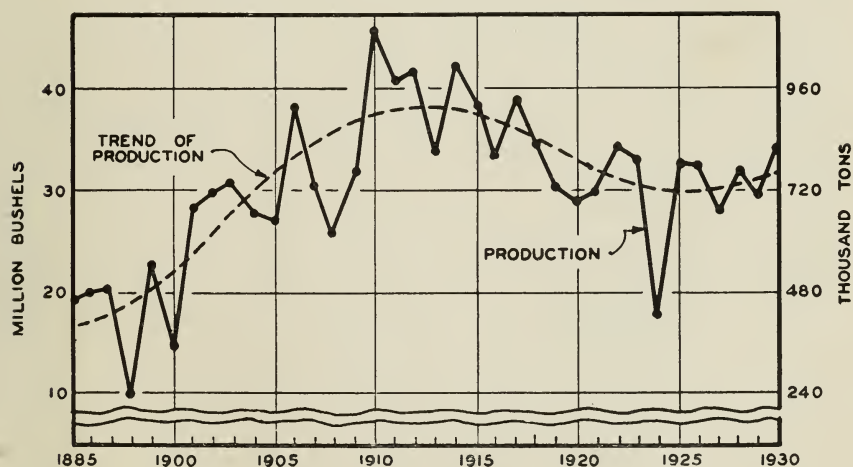


Fig. 1.—Barley production in California reached its peak in 1910, at which time it was the principal barley-producing state in the Union. In recent years California barley production has fluctuated between 700,000 and 800,000 tons.

Data from table 6.

in the Los Angeles area for feed. The south central coast counties produce about 7 per cent of the total tonnage of the state and like the barley grown in the San Joaquin Valley, some goes for export, but most of it is shipped to feed markets. The southern counties produce entirely for the feed market. The rabbit industry, which has developed rather rapidly in recent years, particularly in the southern part of the state, provides a new feed market for barley not formerly existing.

Common Coast, Tennessee Winter, Club Mariout, and Atlas are the principal varieties grown in the state. Atlas is a pure strain derived from Common Coast and is gaining appreciably in importance because of its high yields and good quality.

## DISPOSITION OF BARLEY IN CALIFORNIA

California produces more barley than is used in the state. A small quantity of feed barley is, nevertheless, brought in from the eastern states. The total available supply and the disposition are given in table 1, covering the three crops of 1927-1929. The average production was 708,000 tons. A little over 12,000 tons was brought into Los Angeles<sup>3</sup> from outside of the state. Thus a total of 720,200 tons was available for disposal. Of this supply 237,000 tons, or 33 per cent,

TABLE 1  
BARLEY DISPOSITION IN CALIFORNIA

	Three-year average 1927-1929	
	<i>1,000 tons</i>	<i>per cent</i>
Supply:		
1. Production .....	708.0	98
2. Brought in .....	12.2	2
Total supply* .....	720.2	100
Disposition:		
3. Exported.....	237.0	33
4. Used for seed .....	45.0	6
5. Feed .....	438.2	61
Total.....	720.2	100

\*Carryover may be disregarded in an average of several years.

## Sources of data:

1. From table 6.
2. Los Angeles receipts from other states, such data not available for other California markets.
3. From table 7.
4. Weighted average rate of seeding applied to acreage harvested in 1928, 1929, and 1930, allowing 5 per cent for hay and abandonment.
5. Total supply minus exports and seed. (The quantity used for rodent control and for human consumption is included in this item.)

went into export trade; 438,200 tons, or 61 per cent, was used for feed; and 45,000 tons, or 6 per cent, was used for seed. The quantity indicated under the feed item includes that used for rodent control and that processed for human consumption. The amount used as feed for livestock was probably about 400,000 tons.

<sup>3</sup> Data for other centers are not available.



## BARLEY EXPORTS FROM CALIFORNIA

*Trend of Barley Exports by Water from California.*—Since the World War annual barley exports from California by water have averaged about twice as much as they did before the War, as may be noted from table 2. During 1921–1925 California exported by water an average of 314,000 tons, or 44.6 per cent of its barley production, and during 1926–1930 an average of 250,000 tons, or 34.5 per cent of production; whereas before the War water exports amounted to less than 20 per cent of the production of barley in the state. Before the War considerable quantities of California barley moved eastward by rail, a large part of which was used for malting. Data giving rail movement of barley from California for pre-war and post-war periods are not at hand. Certain interests in the barley trade estimate that the movement of California barley east by rail prior to the War varied between 120,000 and 350,000 tons a year, according to conditions.

TABLE 2

CALIFORNIA BARLEY PRODUCTION AND EXPORTS SINCE 1900 BY FIVE-YEAR AVERAGES

Five-year periods	Production	Exports*	Per cent exported
	<i>1,000 tons</i>	<i>1,000 tons</i>	
1901-1905.....	690	133	19.0
1906-1910.....	825	130	15.7
1911-1915.....	946	155	16.4
1916-1920.....	795	87	10.9
1921-1925.....	703	314	44.6
1926-1929.....	726	250	34.5

\*Based on crop years July-June.

Sources of data: tables 6 and 7.

Sometimes it is held that water exports of barley from California have increased because the rail movement east has been stopped as a result of prohibition. It is entirely possible that prohibition was a factor. However, it is more likely that changes in the international barley trade occasioned by the War exerted the major influence in bringing about the increase of barley exports by water from California. The level of prices and the fact that barley is not exported on consignment substantiate the latter view.

*Exports by Countries of Destination.*—The United Kingdom, certain continental European countries, and Canada import barley in considerable quantity from the United States. Barley exports to the

United Kingdom are mostly from California, whereas exports to continental Europe and to Canada are from barley grown in the north central states. During the period 1926–1930 an average of 218,000 tons, or 87 per cent of the barley exported from California, went to the United Kingdom, as is shown in figure 2. Only 27,000 tons, or 11 per cent, went to other European countries.

The exports of barley from the north central states to Canada, which averaged 268,000 tons, are significant in view of the Canadian import tariff of 32 cents a hundred on barley during this period. It may be concluded, therefore, that the barley exported to Canada was used for malting purposes, inasmuch as Canadian production averaged over 2,000,000 tons annually during this period. This tends to show that barley grown in Canada is not satisfactory for malting purposes and is, therefore, not a factor in competition with California barley in United Kingdom markets.

*Seasonal Exports from California.*—California exports barley during each month of the year; the heaviest shipments, however, occur during the six months July to December. Figure 3, based on the five-year period 1925–26 to 1929–30, represents the average seasonal movement. On the basis of this average, 66 per cent of the exports are shipped during the first six months of a crop year beginning with July and 33 per cent are shipped during the last six months. Normally the heaviest shipments occur in August; April tends to be the month of lightest shipments. Exports during the latter part of the crop year, particularly in June, are in part new barley. There is a greater tendency for exports to vary from normal during December to June than during July to November.

#### WORLD BARLEY COMPETITION IN THE UNITED KINGDOM

United Kingdom malting markets draw their supply of barley from practically every part of the world. The average quantity received from the different countries during 1925–1928 is illustrated in figure 4, and a comparison with pre-war imports is given in table 3.

California, Canada, Russia, and western Asia are the principal foreign sources of supply. In recent years California furnished more than twice as much as any other single source, thus holding the position held by Russia before the War. Much of the barley entering England is, of course, used for feed. The better malting barleys come from California, south central Europe, northern Africa, and Chile. Barley production in the British Isles has fluctuated above and below an average of 1,400,000 tons for many years.

BARLEY EXPORTS FROM CALIFORNIA AND TOTAL UNITED STATES EXPORTS BY COUNTRIES OF DESTINATION, AVERAGE 1926-27 TO 1929-30

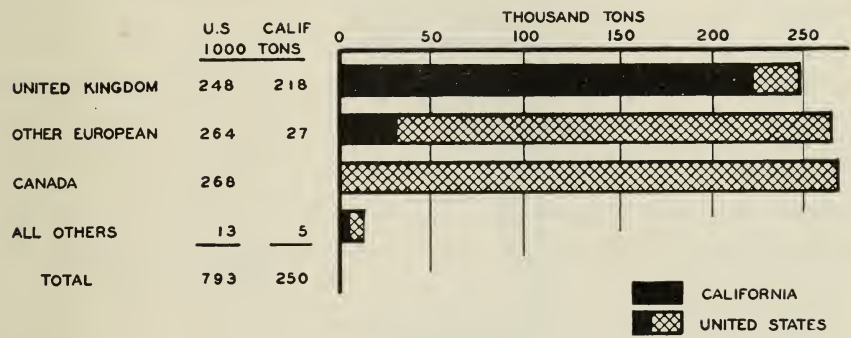


Fig. 2.—The United Kingdom is the principal foreign market for California export barley. Barley exports from other sections of the United States are shipped to Continental Europe and to Canada.

Data from tables 9 and 10.

BARLEY EXPORTS FROM SAN FRANCISCO BY MONTHS, AVERAGE 1925-26 TO 1929-30

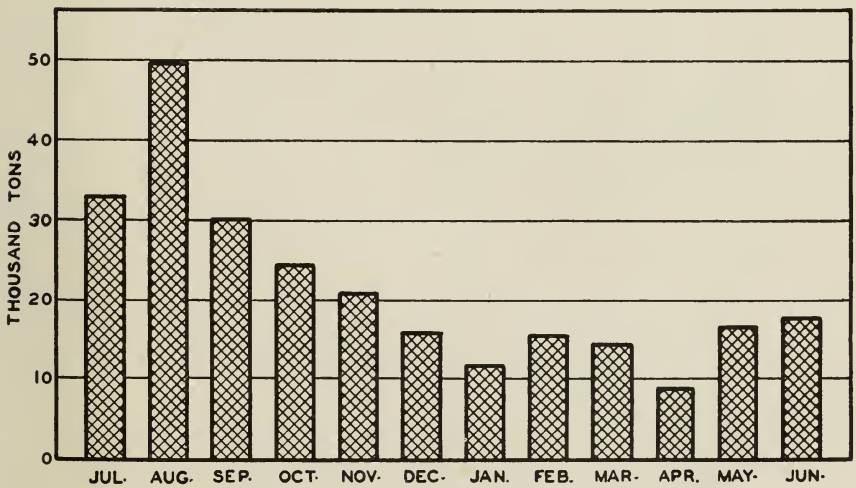


Fig. 3.—In an average season, 66 per cent of California barley exports are shipped during the six months July-December.

Data from table 8.

## UNITED KINGDOM BARLEY IMPORTS BY COUNTRIES OF ORIGIN, AVERAGE 1925-1928

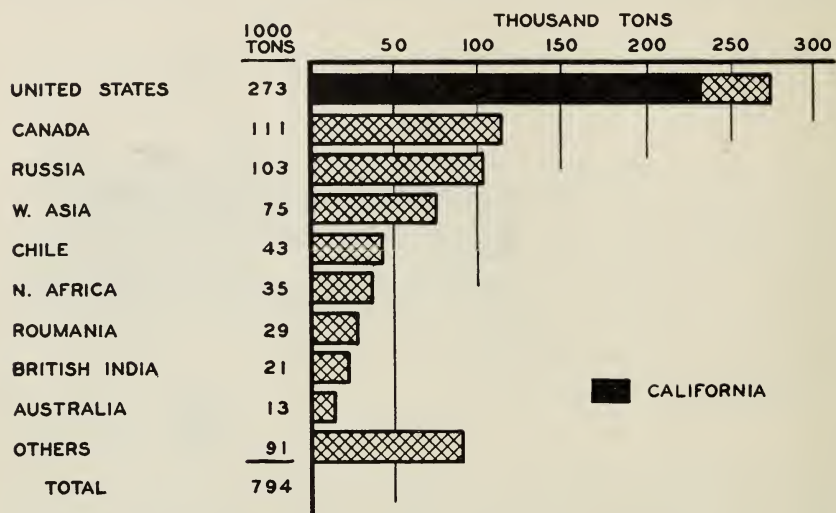


Fig. 4.—California furnishes 35 per cent of the total barley imports into the United Kingdom.

Data from table 3.

TABLE 3  
UNITED KINGDOM BARLEY IMPORTS BY COUNTRIES OF ORIGIN

Country	Average 1910-14		Average 1925-28	
	<i>tons*</i>	<i>per cent</i>	<i>tons*</i>	<i>per cent</i>
Russia .....	347,723	30.6	102,748	12.9
United States† .....	178,893	15.7	272,942	34.4
British India.....	146,413	12.9	20,995	2.6
Roumania.....	119,819	10.6	28,525	3.6
Western Asia‡.....	110,291	9.7	75,164	9.5
Canada.....	59,194	5.2	111,114	14.0
Northern Africa¶.....	48,660	4.3	35,287	4.4
Germany.....	27,716	2.4	.....	.....
Chile.....	22,164	2.0	43,036	5.4
Other countries .....	75,215	6.6	104,595	13.2
Total.....	1,136,093	100.0	794,406	100.0

\* British hundredweights of 112 pounds converted to tons of 2,000 pounds.

† From California 1910-14, 80,000 tons; 1925-29, 218,000 tons.

‡ Persia, Turkey, and Irak.

¶ Algeria, Tunis, Morocco.

Data for the year 1929 have become available since this study was prepared. Total imports for 1929 were 671,236 tons, from the United States 243,708 tons; India 2,611 tons; Roumania 82,904 tons; Western Asia 91,487 tons; Canada 77,183 tons; Northern Africa 73,350 tons; and Chile 26,508 tons.

Source of data:

Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions. Vol. 2. Customs and Excise Department, London. Annual numbers.



## BARLEY PRICES

*Factors Affecting Barley Prices at San Francisco.*—Almost without exception the year-to-year changes in the price of feed barley at San Francisco correspond with the year-to-year changes in the price of barley at Minneapolis, as is shown in figure 5. In both markets prices in recent years have reached levels comparable to those prevailing prior to the War. The price at San Francisco since the War has, however, been rather uniformly above the Minneapolis price. Representative average prices for the two markets, as given in table 4, indicate briefly what has occurred. It will be noted that before and during the War San Francisco tended to be below Minneapolis.

PRICES OF FEED BARLEY AT SAN FRANCISCO AND NO. 2 BARLEY AT MINNEAPOLIS

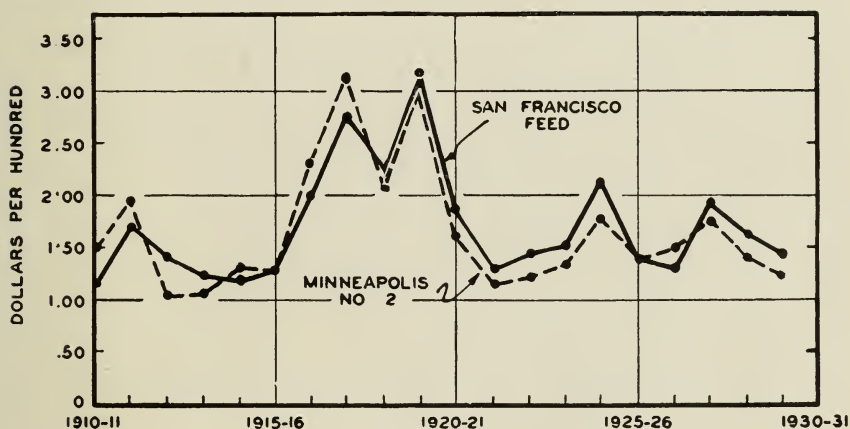


Fig. 5.—In general the price of barley at San Francisco moves in the same direction as the price of barley at Minneapolis. Since 1918 the San Francisco price has averaged above the Minneapolis price.

Data from tables 11 and 12.

There are two principal reasons for the relatively higher level of the San Francisco price since the War. As already indicated exports of barley by water have been more than twice as much as they were before the War. There has also been an increase in the amount required for feed barley in California for dairy cows and poultry, which have increased on an average 12,000 and 500,000 head, respectively, annually since 1920.

In 1925 and 1926 the price of barley in California went relatively low because of a decided falling-off of feed requirements in 1925, due



to the reduced numbers of livestock as a result of the foot-and-mouth disease. According to the California State Department of Agriculture 109,855 animals were killed during the summer of 1924 and early part of 1925. Partially as a result of the reduced feeding requirements occasioned by the reduction in the number of livestock, over 130,000 tons, or 17 per cent of the 1925 barley production, was carried over into 1926, in spite of increased exports in 1925. Ordinarily only 5 per cent of the crop is carried over. The heavy carry over from the 1925 crop, together with increased freight rates to the United Kingdom, depressed the local price in 1926. Since 1927 the position of the San Francisco price relative to the Minneapolis price has again been as it was before 1925. Small quantities of barley come from the Middle West into California, when the *price* spread is sufficiently favorable, which tends to keep the California markets in line with the mid-western markets.

TABLE 4

THE PRICE OF FEED BARLEY AT SAN FRANCISCO COMPARED WITH THE PRICE OF No. 2 BARLEY AT MINNEAPOLIS, BY REPRESENTATIVE AVERAGE PERIODS; IN DOLLARS PER HUNDRED POUNDS

Average period*	Feed barley San Francisco	No. 2 Minneapolis	San Francisco above or below Minneapolis
	<i>dollars</i>	<i>dollars</i>	<i>dollars</i>
1910-1914.....	1.33	1.37	— .04
1916-1919.....	2.55	2.63	— .12
1921-1925.....	1.55	1.37	+ .18
1926-1930.....	1.48	1.36	+ .12

\* June-May crop years for San Francisco and July-June for Minneapolis.

Source of data:

San Francisco from table 11.

Minneapolis from table 12.

The price of barley in California is also affected by the price of corn in the eastern markets. California buys corn in quantity from the Middle West to supplement local feeds. In fact, corn receipts at Los Angeles, as given in table 5, exceed by a margin of about 1,200 cars the receipts of barley. Because corn and barley compete in feeding, particularly in the feeding of dairy cows and poultry, the price of one is influenced by the price of the other. The extent to which the average annual price of barley since 1910 at San Francisco has moved as did the price of corn at Chicago since 1910 is shown in figure 6. It will be noted that the movements of the two curves are very similar. The scales of the charts are so arranged as to place the

two on a comparable nutritive-value basis. It should be remembered, however, that the price of corn in California has averaged 40 cents a hundred above Chicago for the past five years. Recent changes in freight rates may reduce this slightly.

TABLE 5  
RECEIPTS OF CORN AND BARLEY AT LOS ANGELES

Year June-May	Corn	Barley
	<i>cars</i>	<i>cars</i>
1923-24.....	1,557	1,661
1924-25.....	1,775	1,454
1925-26.....	2,474	2,290
1926-27.....	2,969	2,497
1927-28.....	3,281	1,745
1928-29.....	2,891	1,868
1929-30.....	3,198	2,095

Source of data:  
Compiled from reports of The Los Angeles Grain Exchange.

PRICES OF FEED BARLEY AT SAN FRANCISCO AND CORN AT CHICAGO, 1910-1930

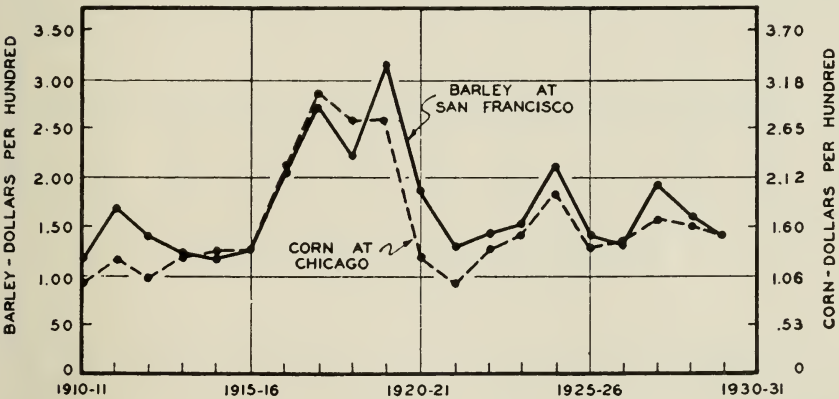


Fig. 6.—Corn shipped into California from eastern states competes directly with barley in the feeding of dairy cows and poultry; the price of corn, therefore, has some influence upon the price of barley. The scales of the above chart are arranged in such a manner as to put barley and corn on a comparable nutritive-value basis. To make such comparison directly, however, it is necessary first to adjust the Chicago price for freight and handling charges.

Data from tables 11 and 20.

The price of corn at Chicago is determined primarily by three factors: the supply of corn including carryover, the number of hogs on farms, and the general price level. The War period and the present depression which began in 1929, clearly illustrate the effect of

major changes in the general price level. The high price of 1924 best demonstrated the result of a change in the supply of corn. The high price in 1927, when the supply of corn was the same as the previous year, reflected the increased demand arising from an increase in the number of hogs on farms.

PRICES OF CALIFORNIA BARLEY AT SAN FRANCISCO, AND AT HULL, ENGLAND,  
1921-1930

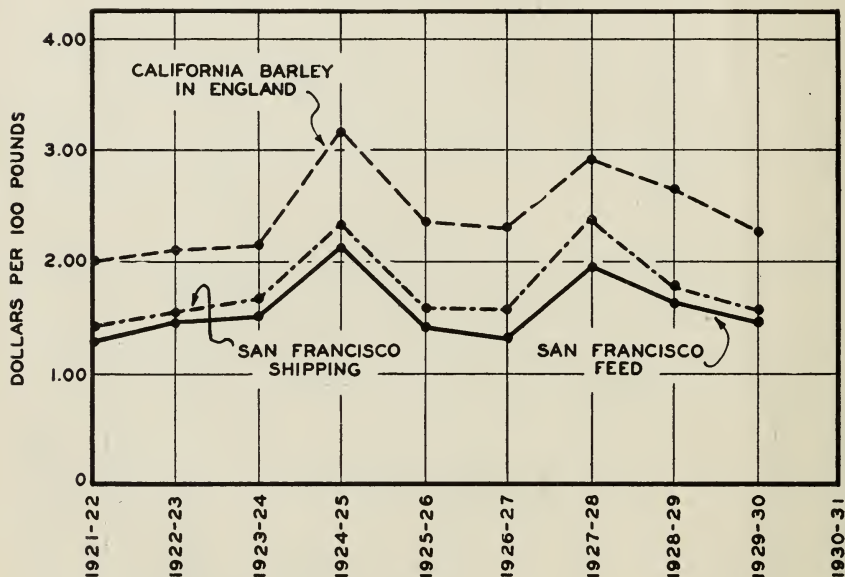


Fig. 7.—The price of California barley in England moves very closely with the price of barley at San Francisco.

Data from tables 11, 13, and 14.

The price of barley for the 1929-30 and 1930-31 seasons was also materially affected by the large quantities of wheat available at prices stimulating to its use as feed. Whether or not the price of wheat will continue to be an important factor cannot be determined at present. A situation such as the present has not occurred often in the past.

*Price of Export Barley.*—As already explained, the increased foreign demand for California malting barley apparently has had some influence upon the price level of both feed and malting barley in California. The year-to-year changes in the price of California barley in England, however, also have an effect upon the quantity taken by England from California for malting purposes.

The average annual price of California barley at Hull, England, as shown in figure 7, moves very uniformly with, although considerably above, the price of shipping barley at San Francisco. Over the ten-year period 1921-1930 the price at Hull, England, averaged \$2.37 a hundred pounds, whereas the price of shipping barley at San Francisco averaged \$1.69 a hundred pounds.

PRICES OF CALIFORNIA AND ENGLISH BARLEY AT HULL, ENGLAND, 1921-1930

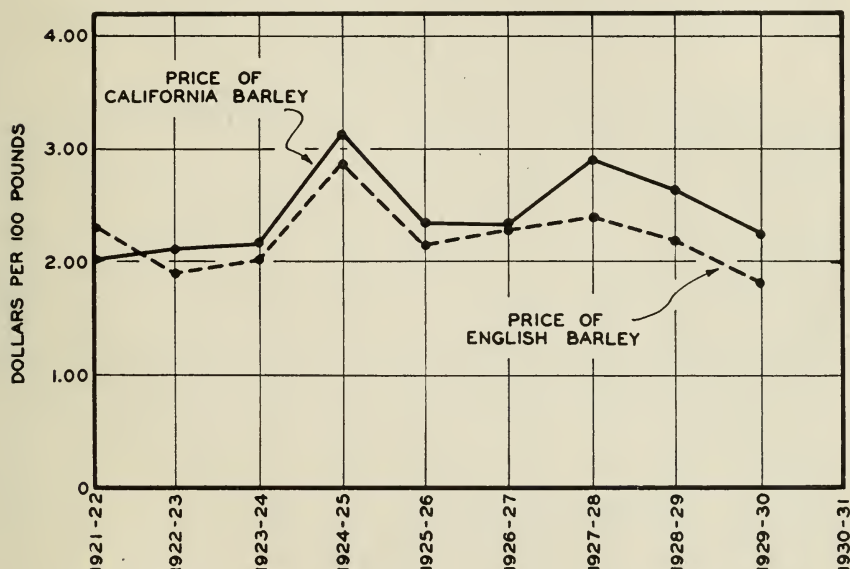


Fig. 8.—California malting barley sells generally for a higher price than English malting barley in England.

Data from tables 14 and 15.

California barley tends to sell for higher prices in England than does barley grown in England, as is illustrated in figure 8. English malting barley averaged \$2.16 a hundred at Hull, England, during 1921-1930, whereas California barley averaged \$2.37 a hundred. This indicates that the quality of California barley is superior to English barley for malting purposes. A comparison of figures 7 and 8 demonstrates that the price of California barley in England is more closely related to the price of feed barley at San Francisco than it is to the price of English malting barley.

A comparison of the price of California barley in England and California exports to the United Kingdom expressed as a percentage of total United Kingdom barley imports, as illustrated in figure 9,

suggests the conclusion that when the price of California barley is high, the British importers noticeably curtail their purchases of California barley and increase their purchases from other countries. For example, when the price of California barley at Hull, England, went above \$3.00 a hundred pounds in 1924-25 as compared to \$2.14 the year before, imports from California amounted to only 16 per cent of the total imports as compared to 22 per cent for the previous year.

RELATION BETWEEN THE PRICE OF CALIFORNIA BARLEY IN ENGLAND AND THE PROPORTION OF TOTAL UNITED KINGDOM BARLEY IMPORTS COMING FROM CALIFORNIA

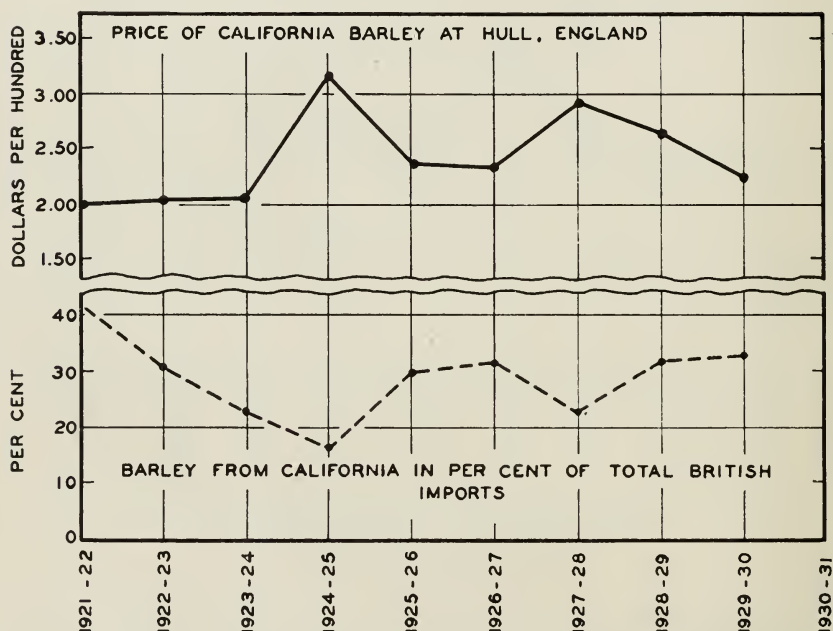


Fig. 9.

Data from tables 9, 14, and 17.

Likewise, in 1927-28, with the price averaging \$2.90 a hundred as compared with \$2.33 in 1926-27, imports from California fell from 32 per cent to 22 per cent of total imports.

It is, however, also possible to conclude that when the supply of barley in California suitable for export is relatively small the price is bid unusually high by the British importers. To measure definitely the factors which have determined the quantities of California barley imported into the United Kingdom is beyond the scope of this study.



*Seasonal Movement of Barley Prices.*—Barley prices in California do not follow a uniform seasonal movement like the volume of exports. During each of the nine crop years beginning with 1921, the price of feed barley at San Francisco in general followed one of two types of seasonal movements—one type characterized by a rather regular rise throughout the season, and the other by a severe break in prices during either the late summer or early spring months. The seasons 1921–22, 1922–23, 1923–24, 1926–27, and 1928–29 are shown in figure 10. For these years the average March–May price was 27 cents a

SEASONAL BARLEY PRICES, GROUP I

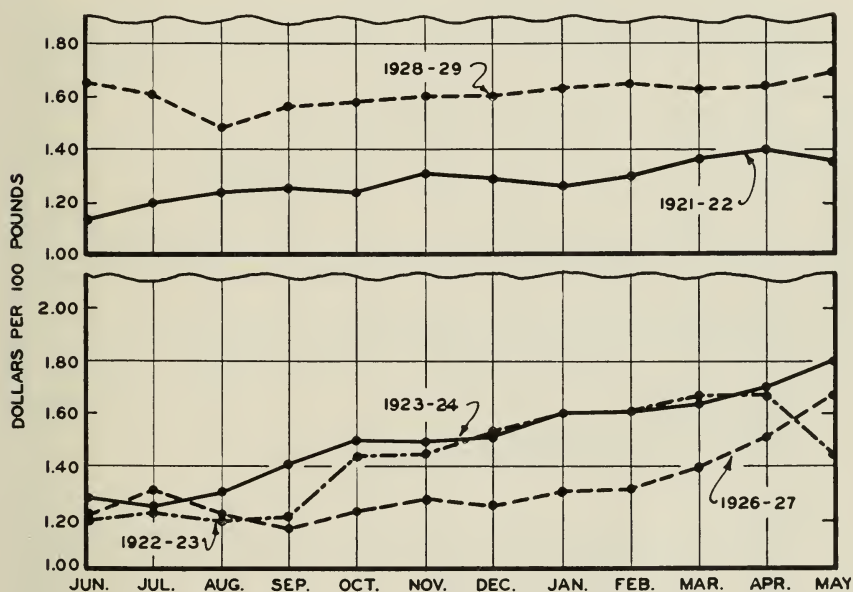


Fig. 10.—Barley prices at San Francisco tend to advance during the winter months, and if weather conditions are not favorable for high yields in the coming harvest, prices continue to rise during the spring months.

Data from table 13.

hundred above the average June–August (previous) price. The group characterized by the drop in price during the latter part of the season is shown in figure 11. The seasons are 1924–25, 1925–26, 1927–28, and 1929–30, in which the March–May prices averaged 32 cents a hundred under the December–January (previous) prices.

In general, prices during the season tend to rise from autumn to the end of winter; and then, if climatic conditions point toward the likelihood of high yields for the coming crop, prices during the spring

months sag; but if conditions point to the likelihood of decreased yields for the coming crop, prices continue to rise during the spring months. The depression which began in the late summer of 1929 may reasonably account for an absence of a rise during the autumn and winter months of the 1929-30 season.

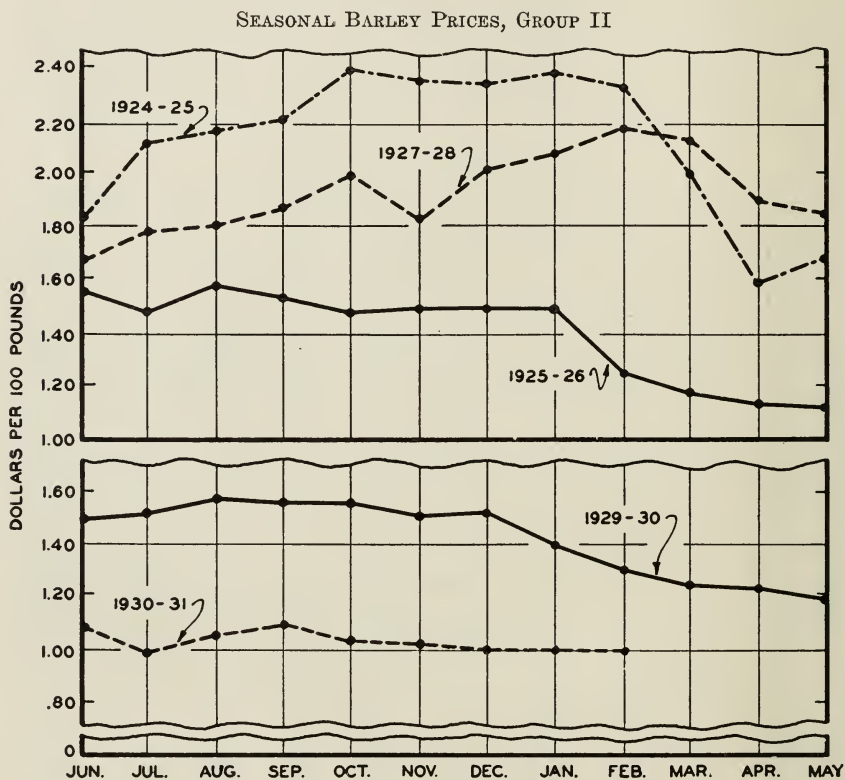


Fig. 11.—Barley prices at San Francisco tend to advance during the winter months. If weather conditions are favorable for high yields in the coming harvest, prices tend to break sharply during the early spring months.

Data from table 11.

#### TREND OF WORLD BARLEY PRODUCTION BY PRINCIPAL COUNTRIES

As shown in figure 12, since 1920 the trend of world barley production, exclusive of China, has been upward with an unusual rate of increase. The average world production during the three years 1927-1929 was 1,896,000,000 bushels, whereas the average for 1920-1922 was 1,436,000,000, an increase of 32 per cent in seven years. Much of this increase may be considered to be in the nature of a

recovery from the curtailment that took place in Europe from 1914 to 1919. A rather extended increase in world barley production occurred between 1900 and the opening of the World War. The average production during the three years prior to 1914 was 1,850,000,000 bushels, whereas that of 1901–1903 had been 1,415,000,000 bushels, an increase of 30 per cent in ten years. It might at first appear, therefore, that all of the recent increase was in the nature of a recovery; this, however, is not the case, as is brought out by observation of the trend of production in different countries as shown in figures 13 and 14.

WORLD BARLEY PRODUCTION, EXCLUDING CHINA, 1900–1930

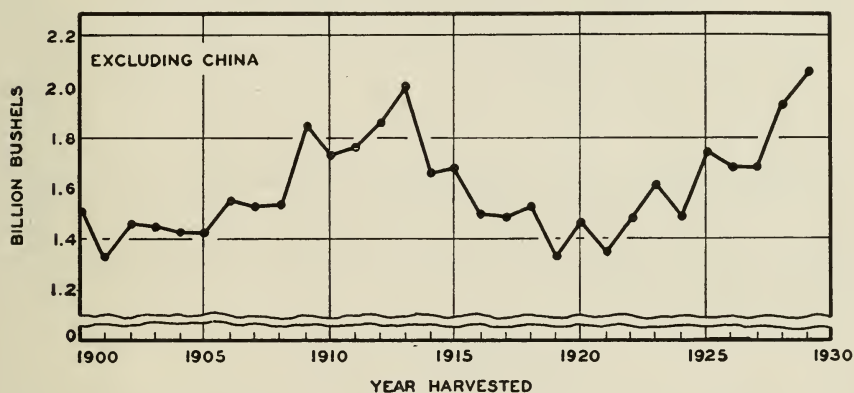


Fig. 12.—The trend of world barley production was seriously interrupted by the World War.

Data from table 16.

On the North American continent, the trend of barley production has continued upward; in Europe, excluding Russia, it has more than recovered the pre-war level; but in Russia it has not yet fully recovered. The trend of barley production in the United States has been somewhat irregular since 1910. Until recent years United States production has fluctuated between 150 million and 250 million bushels; during 1928–1930 production averaged 330 million bushels.

Canada has experienced a very rapid and practically unbroken upward trend in barley production. During 1910–1914 Canadian production averaged 41.2 million bushels, and for the five years 1926–1930 it averaged 114.4 million bushels, making an average increase of 4.6 million bushels annually. If barley production continues to prove to be an effective means of weed control in wheat production, the upward trend of barley production in Canada will probably continue for several years.

## BARLEY PRODUCTION IN THE UNITED STATES AND CANADA, 1910-1930

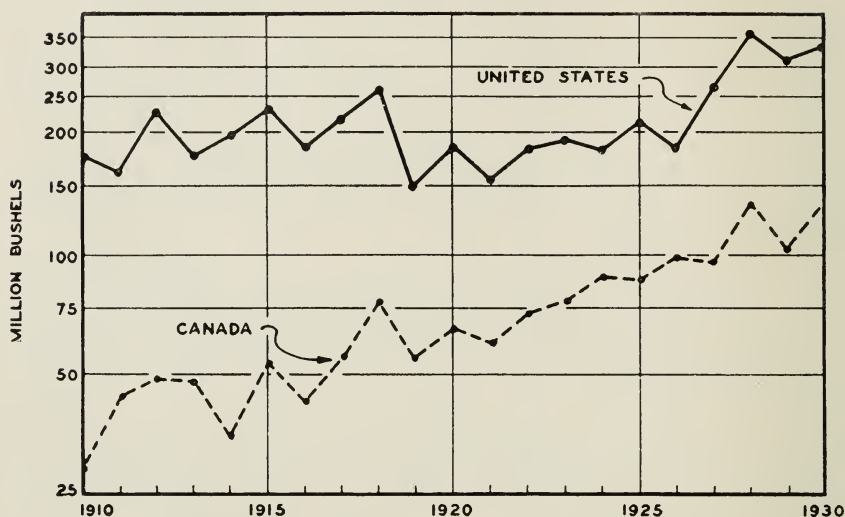


Fig. 13.—The trend of barley production in the United States was only slightly interrupted during the World War. The trend of barley production in Canada has been steadily upward since 1910, the average increase being 4.6 million bushels annually.

Data from table 16.

## BARLEY PRODUCTION IN EUROPE, EXCLUDING RUSSIA, AND IN RUSSIA, 1900-1930

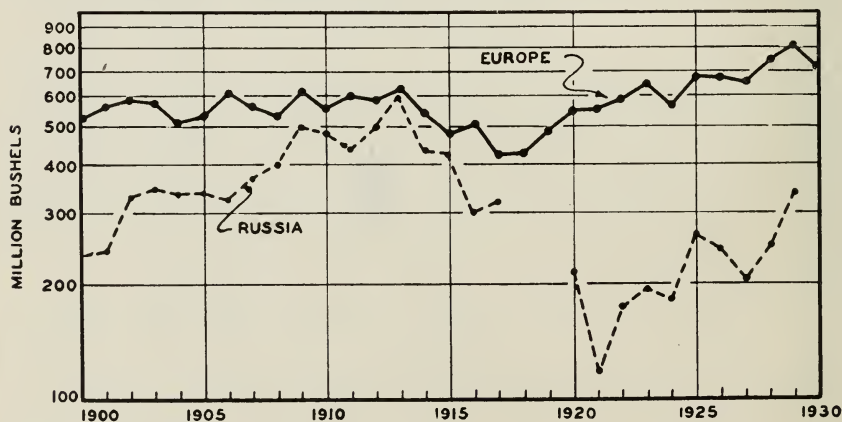


Fig. 14.—Barley production in Europe, excluding Russia, is now materially above the pre-war level, whereas barley production in Russia has not as yet reached pre-war levels.

Data from U.S. Dept. Agr. Yearbook of Agriculture 1930:654. 1930.

Since 1900 barley production in Russia has been most erratic. It rose rather steadily from 237 million bushels in 1900 to 600 million in 1913, then fell to 118 million by 1921; the 1929 production is estimated at 338 million bushels. This is still much below the pre-war level. If governmental stability in Russian is maintained, it is very likely that barley production in Russia will be materially expanded in the next few years.

Barley production in Europe, excluding Russia, which for ten years before the World War averaged 577 million bushels, has more than recovered from the curtailment occasioned by the War, when it dropped to 424 million bushels. During the five years 1926-1929 European barley production averaged 717 million bushels. As long as the European governments rather generally force their people to pay high prices for wheat because of high import duties, it is likely that the European countries will expand wheat rather than barley. World barley production is, therefore, not likely to increase as fast during the next few years as it has since 1920. Production in the United States, Canada, and Russia is likely to determine largely the trend of world barley production during the next few years.

#### ACKNOWLEDGMENTS

The writer of this bulletin wishes to express his appreciation to the following persons and organizations that have generously contributed from their data and their time to make this study possible: California Cooperative Crop Reporting Service; Bureau of Agricultural Economics, United States Department of Agriculture; Bureau of Foreign and Domestic Commerce, United States Department of Commerce; Food Research Institute, Stanford University; San Francisco Grain Trade Association; Los Angeles Grain Exchange; California Farm Bureau Federation; and particularly Dr. H. R. Wellman, Mr. J. E. Coke, and Dr. S. W. Shear for their personal counsel and interest.



## APPENDIX OF TABLES

TABLE 6

CALIFORNIA ACREAGE, YIELD PER ACRE, AND PRODUCTION OF BARLEY, 1892-1930

Year	Acreage harvested	Yield per acre	Production
	<i>acres</i>	<i>hundred pounds</i>	<i>1,000 tons</i>
1892	845,240	11.5	487
1893	760,716	10.8	411
1894	737,895	7.3	269
1895	937,127	9.7	457
1896	918,384	10.4	476
1897	881,649	11.0	487
1898	872,833	5.0	220
1899	855,376	12.5	534
1900	889,591	8.0	357
1901	1,089,785	12.5	680
1902	1,144,274	12.5	714
1903	1,201,488	12.3	741
1904	1,237,533	10.9	674
1905	1,237,533	10.3	639
1906	1,425,000	13.1	930
1907	1,040,000	13.9	721
1908	1,082,000	11.3	610
1909	1,180,000	12.7	750
1910	1,500,000	14.9	1,116
1911	1,450,000	13.4	974
1912	1,392,000	14.4	1,002
1913	1,275,000	12.5	796
1914	1,402,000	14.4	1,009
1915	1,360,000	13.9	947
1916	1,190,000	13.4	800
1917	1,350,000	13.9	940
1918	1,320,000	12.5	824
1919	1,000,000	14.4	720
1920	1,250,000	11.0	690
1921	1,188,000	12.0	713
1922	1,129,000	14.6	826
1923	1,095,000	14.5	794
1924	765,000	10.5	402
1925	1,050,000	14.9	781
1926	1,080,000	14.4	778
1927	994,000	13.2	656
1928	1,044,000	14.6	764
1929	992,000	14.2	705
1930	1,012,000	16.8	850

Sources of data:

1892-1899 from California State Board of Agriculture. Statistical Report 1917: 106. 1918.

1900-1920 from California State Board of Agriculture. Statistical Report 1921: 149. 1923.

1921-1930 from California Cooperative Crop Reporting Service Annual Reports.

TABLE 7

CALIFORNIA BARLEY PRODUCTION AND EXPORTS EXPRESSED IN TONS AND AS A PERCENTAGE OF PRODUCTION, 1900-1930

Years	Production	Exports*	Exports as per cent of production
	<i>1,000 tons</i>	<i>1,000 tons</i>	<i>per cent</i>
1900-01.....	357	99	27.7
1901-02.....	680	188	27.6
1902-03.....	714	153	21.4
1903-04.....	741	193	26.0
1904-05.....	674	79	11.7
1905-06.....	639	53	8.3
1906-07.....	930	158	17.0
1907-08.....	721	70	9.7
1908-09.....	610	124	20.3
1909-10.....	750	80	10.7
1910-11.....	1,116	219	19.6
1911-12.....	974	35	3.6
1912-13.....	1,002	121	12.1
1913-14.....	796	39	4.9
1914-15.....	1,009	420	41.6
1915-16.....	947	161	17.0
1916-17.....	800	65	8.1
1917-18.....	940	12	1.3
1918-19.....	824	88	10.7
1919-20.....	720	65	9.0
1920-21.....	690	205	29.7
1921-22.....	713	423	59.3
1922-23.....	826	377	45.6
1923-24.....	794	248	31.2
1924-25.....	402	209	51.5
1925-26.....	781	314	40.2
1926-27.....	778	285	36.6
1927-28.....	656	200	30.5
1928-29.....	764	251	32.9
1929-30.....	705	262	37.2
1930-31.....	802		

\* Exports from San Francisco Customs District.

Sources of data:

Production from table 6.

Exports: 1900-01 to 1912-13 and 1914-15 to 1917-18 from U. S. Dept. Commerce; Foreign Commerce and Navigation of the United States. Annual Issues. 1913-14 and 1918-19 to 1929-30 from U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce; Monthly Statements, San Francisco Customs Office.

TABLE 8

BARLEY EXPORTS FROM CALIFORNIA BY MONTHS, IN THOUSANDS OF TONS\*,  
1921-1929

Crop year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	Total
1921-22.....	36.1	96.6	102.2	37.0	52.0	17.4	10.7	4.3	14.6	19.3	18.5	14.6	423.3
1922-23.....	48.1	42.3	81.3	60.6	32.4	17.2	15.5	26.4	22.4	14.3	7.9	8.5	376.9
1923-24.....	18.6	61.9	48.5	32.8	5.9	8.9	6.5	12.0	16.2	13.5	10.5	12.3	247.6
1924-25.....	27.6	35.1	26.7	42.5	16.2	8.6	2.0	9.2	1.3	1.8	23.6	12.3	206.9
1925-26.....	33.6	60.4	58.2	34.5	31.4	15.8	12.8	5.2	7.4	12.7	14.8	26.8	313.6
1926-27.....	28.4	33.3	28.4	14.1	17.1	27.7	18.4	21.3	41.4	9.8	23.8	21.3	285.0
1927-28.....	40.0	54.0	17.4	17.0	19.1	8.8	3.1	5.2	2.3	4.6	15.2	13.4	200.1
1928-29.....	35.2	58.8	16.2	32.1	17.8	7.0	13.4	28.3	14.0	4.4	2.8	20.8	250.8
1929-30.....	29.5	43.2	32.5	25.0	19.0	22.2	12.1	19.3	8.6	13.8	27.4	8.9	261.5
1930-31.....	13.1	26.7	29.1	27.1	20.1	.....	.....	.....	.....	.....	.....	.....	.....

\* Bushels converted to tons at 41.66 bushels = 1 ton.

Source of data:

U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, Monthly Statements, San Francisco Office.

TABLE 9

BARLEY EXPORTS FROM CALIFORNIA\* BY COUNTRIES OF DESTINATION, 1921-1930

Crop year (July-June)	United Kingdom	Belgium	Other European	All other countries	Total
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
1921-22.....	334,628	25,549	51,515	11,598	423,290
1922-23.....	285,224	25,768	57,168	8,725	376,885
1923-24.....	233,877	3,696	9,417	587	247,577
1924-25.....	161,679	15,509	24,218	7,152	208,558
1925-26.....	256,590	22,559	25,324	9,127	313,600
1926-27.....	223,771	19,278	34,488	7,455	284,992
1927-28.....	177,999	3,627	17,321	1,140	200,087
1928-29.....	238,849	6,004	5,468	495	250,816
1929-30.....	231,775	14,435	5,930	9,372	261,512

\* Exports from San Francisco Customs District. Bushels converted to tons at 41.66 bushels = 1 ton.

Source of data:

Compiled from monthly statements of U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, San Francisco Office.

TABLE 10

BARLEY EXPORTS FROM THE UNITED STATES BY COUNTRIES OF DESTINATION,  
1925-1930

Crop year (July-June)	United Kingdom	Other European	Canada	All other countries	Total
	<i>tons*</i>	<i>tons*</i>	<i>tons*</i>	<i>tons*</i>	<i>tons*</i>
1925-26.....	317,401	181,021	6,835	147,184	652,441
1926-27.....	215,576	126,574	52,412	14,560	409,122
1927-28.....	235,750	378,905	250,923	12,473	878,051
1928-29.....	315,899	469,254	573,349	9,629	1,368,131
1929-30.....	224,916	81,784	195,497	14,941	517,138

\* Bushels converted to tons at 41.66 bushels=1 ton.

Source of data:

Compiled from U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, Monthly Summary of Foreign Commerce of the United States.

TABLE 11

MONTHLY PRICE OF NO. 1 FEED BARLEY AT SAN FRANCISCO; IN DOLLARS PER  
HUNDRED POUNDS

Crop year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Average
1910-11.....	1.13	1.00	1.10	1.02	0.93	1.02	1.06	1.12	1.14	1.14	1.46	1.47	1.13
1911-12.....	1.28	1.25	1.45	1.60	1.75	1.88	1.80	1.88	1.87	1.85	1.90	1.85	1.70
1912-13.....	1.62	1.37	1.30	1.45	1.50	1.45	1.37	1.32	1.32	1.35	1.42	1.45	1.41
1913-14.....	1.40	1.30	1.30	1.37	1.37	1.32	1.32	1.25	1.10	1.12	1.06	1.00	1.24
1914-15.....	0.95	0.97	0.97	1.15	1.09	1.17	1.25	1.45	1.50	1.35	1.30	1.15	1.19
1915-16.....	1.05	1.10	1.20	1.20	1.25	1.27	1.30	1.30	1.32	1.32	1.32	1.32	1.25
1916-17.....	1.32	1.37	1.55	1.70	1.85	2.15	2.20	2.22	2.22	2.25	2.50	3.00	2.03
1917-18.....	2.50	2.20	2.20	2.40	2.40	2.40	2.50	2.65	3.30	3.62	3.62	3.15	2.75
1918-19.....	2.85	1.55	2.44	2.44	2.12	2.15	2.22	2.20	1.95	2.08	2.40	2.50	2.24
1919-20.....	2.60	3.00	3.02	2.95	2.95	3.25	3.50	3.60	3.50	3.40	3.10	3.30	3.18
1920-21.....	3.10	2.50	2.30	2.15	2.00	2.00	1.65	1.45	1.37	1.35	1.13	1.20	1.85
1921-22.....	1.13	1.19	1.24	1.25	1.24	1.31	1.29	1.26	1.29	1.36	1.39	1.36	1.28
1922-23.....	1.19	1.22	1.19	1.21	1.43	1.45	1.52	1.60	1.60	1.66	1.68	1.45	1.43
1923-24.....	1.28	1.25	1.30	1.41	1.50	1.49	1.51	1.60	1.60	1.63	1.69	1.79	1.50
1924-25.....	1.84	2.13	2.17	2.22	2.40	2.37	2.35	2.40	2.35	2.02	1.59	1.69	2.13
1925-26.....	1.57	1.49	1.58	1.54	1.49	1.50	1.50	1.49	1.26	1.18	1.14	1.13	1.41
1926-27.....	1.20	1.30	1.22	1.17	1.23	1.28	1.25	1.31	1.32	1.40	1.51	1.68	1.32
1927-28.....	1.67	1.78	1.81	1.88	2.00	1.84	2.03	2.09	2.18	2.14	1.92	1.86	1.93
1928-29.....	1.65	1.60	1.49	1.56	1.58	1.60	1.60	1.63	1.65	1.63	1.64	1.69	1.61
1929-30.....	1.50	1.52	1.58	1.56	1.56	1.51	1.52	1.40	1.31	1.25	1.24	1.20	1.43
1930-31.....	1.09	1.00	1.06	1.10	1.03	1.02	1.00	1.00	.99	.93	.....	.....	.....

Sources of data:

June, 1910-June, 1911 from Pacific Rural Press.

July, 1911-March, 1921 from San Francisco Federal Reserve Bank; Disposition and carryover of 1920 crop of barley in California. San Francisco Fed. Res. Bank Special Report 12; 1921. The figures are compiled by averaging the daily quotations on the San Francisco Grain Exchange for spot barley. March-December 1918 are the figures of the Federal Grain Corporation.

April, 1921-January, 1931, compiled from records of the San Francisco Grain Trade Association.

TABLE 12  
PRICE OF NO. 2 BARLEY AT MINNEAPOLIS; IN DOLLARS PER HUNDRED POUNDS;  
MONTHLY 1910-1930

Crop year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	Average
1910-11.....	1.25	1.27	1.31	1.31	1.38	1.46	1.60	1.54	1.69	1.83	1.56	1.60	1.48
1911-12.....	1.81	1.77	1.96	1.98	2.04	1.90	2.19	2.08	1.98	2.10	2.06	1.58	1.95
1912-13.....	1.25	0.96	1.02	1.04	0.98	0.94	1.02	1.00	0.96	0.96	1.04	1.08	1.02
1913-14.....	1.00	1.21	1.27	1.17	1.10	1.04	1.08	1.04	1.00	0.98	1.00	0.98	1.07
1914-15.....	0.94	1.23	1.21	1.15	1.23	1.19	1.42	1.56	1.46	1.46	1.46	1.38	1.31
1915-16.....	1.42	1.23	1.00	1.06	1.17	1.27	1.46	1.38	1.35	1.42	1.46	1.42	1.30
1916-17.....	1.44	1.69	1.69	2.15	2.31	2.23	2.44	2.44	2.52	2.83	3.03	2.88	2.31
1917-18.....	3.10	2.73	2.77	2.67	2.65	3.10	3.25	3.92	4.42	3.79	3.04	2.56	3.17
1918-19.....	2.46	2.13	1.98	1.90	1.96	1.92	1.88	1.81	1.94	2.27	2.35	2.33	2.03
1919-20.....	2.52	2.77	2.65	2.69	2.77	3.17	3.17	2.85	3.15	3.33	3.63	3.10	2.98
1920-21.....	2.42	2.13	2.06	1.92	1.71	1.54	1.44	1.35	1.40	1.27	1.23	1.19	1.64
1921-22.....	1.29	1.21	1.15	1.04	1.13	0.98	1.06	1.17	1.21	1.27	1.29	1.17	1.16
1922-23.....	1.17	1.02	1.13	1.19	1.25	1.27	1.19	1.25	1.23	1.33	1.27	1.21	1.21
1923-24.....	1.23	1.17	1.21	1.25	1.27	1.29	1.29	1.42	1.46	1.56	1.46	1.52	1.34
1924-25.....	1.58	1.67	1.69	1.77	1.69	1.81	1.94	1.96	1.83	1.69	1.75	1.75	1.76
1925-26.....	1.75	1.50	1.38	1.35	1.31	1.35	1.35	1.29	1.29	1.31	1.35	1.33	1.38
1926-27.....	1.40	1.31	1.29	1.35	1.33	1.40	1.44	1.48	1.50	1.60	1.83	1.83	1.48
1927-28.....	1.69	1.60	1.50	1.52	1.60	1.73	1.75	1.81	1.88	1.92	1.94	1.96	1.74
1928-29.....	1.77	1.35	1.31	1.31	1.29	1.29	1.38	1.46	1.40	1.35	1.25	1.25	1.37
1929-30.....	1.44	1.27	1.25	1.23	1.25	1.23	1.21	1.19	1.15	1.17	1.15	1.02	1.21
1930-31.....	0.98	1.08	1.10	1.08	1.00	0.98	0.92	0.92	.....	.....	.....	.....	.....

Sources of data:

July 1910-December 1929 from U. S. Dept. Agr., Yearbook of Agriculture 1930:658; 1930.

January 1930-December 1930 from U. S. Dept. Agr., Bur. Agr. Econ., Crops and Markets, monthly issues.

TABLE 13  
SAN FRANCISCO PRICES OF SHIPPING BARLEY; IN DOLLARS PER HUNDRED POUNDS;  
MONTHLY 1920-1930

Crop year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Average
1920-21.....	3.40	2.90	2.55	2.35	2.15	2.24	1.78	1.71	1.42	1.48	1.29	1.40	2.05
1921-22.....	1.31	1.37	1.35	1.35	1.40	1.44	1.42	1.37	1.37	1.45	1.50	1.47	1.40
1922-23.....	1.33	1.28	1.28	1.29	1.48	1.54	1.57	1.68	1.69	1.70	1.69	1.58	1.51
1923-24.....	1.37	1.42	1.44	1.57	1.50	1.50	1.60	1.65	1.65	1.68	1.78	1.86	1.59
1924-25.....	2.06	2.40	2.44	2.63	2.83	2.83	2.77	2.75	N.Q.	1.93	1.64	1.76	2.37
1925-26.....	1.79	1.81	1.83	1.83	1.65	1.63	1.65	N.Q.	N.Q.	1.33	1.28	1.23	1.60
1926-27.....	1.44	1.58	1.56	1.32	1.37	1.48	1.48	1.50	1.52	1.54	1.60	1.79	1.52
1927-28.....	2.13	2.39	2.33	2.38	2.47	2.48	2.48	2.45	2.45	2.45	2.30	2.25	2.38
1928-29.....	2.03	1.90	1.73	1.65	1.70	1.69	1.68	1.73	1.78	1.73	1.77	1.73	1.76
1929-30.....	N.Q.	1.79	1.75	1.70	1.77	1.77	1.61	1.51	1.38	1.33	1.33	1.31	1.57
1930-31.....	1.24	1.26	1.33	1.35	1.35	1.22	1.18	1.17	1.13	1.08	.....	.....	.....

Source of data:

Records of the Grain Trade Association of the San Francisco Chamber of Commerce.



TABLE 14

PRICE OF CALIFORNIA MALTING BARLEY AT HULL, ENGLAND; IN DOLLARS PER  
HUNDRED POUNDS; MONTHLY 1921-1930

Crop year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Average
1921-22.....	.....	.....	.....	.....	.....	.....	1.92	1.89	1.98	2.00	2.02	2.16	2.00
1922-23.....	2.21	2.21	2.22	1.80	1.88	1.91	2.01	2.13	2.22	2.23	2.30	2.19	2.11
1923-24.....	2.19	2.10†	2.13	2.07	2.00	1.94	2.07	2.12	2.24	2.25	2.28	2.29	2.14
1924-25.....	2.29	2.68	2.99	3.15*	3.35*	3.50†	3.59	3.66	3.49	3.06	2.94	2.85*	3.13
1925-26.....	2.70*	2.60*	2.45*	2.35†	2.35	2.35	2.35	2.33	2.23	2.22	2.22	2.22	2.36
1926-27.....	2.23	2.23	2.22	2.36	2.35	2.35	2.36	2.36	2.35	2.36	2.36	2.47	2.33
1927-28.....	2.49	2.68	2.75	2.80	2.91	2.90	2.92	2.97	3.11	3.08	3.08	3.08	2.90
1928-29.....	3.08	3.07	2.99	2.70	2.60	2.57	2.57	2.57	2.57	2.52	2.42	2.41	2.67
1929-30.....	2.46	2.48	2.57	2.34	2.35	2.35	2.35	2.32	2.10	1.97	1.97	1.97	2.27
1930-31.....	1.87	1.87	1.90	1.92	1.93	1.85	1.79	1.82	1.83	.....	.....	.....	.....

\* Interpolated by the writer, using price changes at San Francisco as a basis.

† Quotations for one week only.

#### Sources of data:

Quotations expressed in English currency furnished by the courtesy of Mr. Asher Hobson in charge, Foreign Agricultural Service Division, Bureau of Agricultural Economics, U. S. Department of Agriculture, converted by the writer at monthly average rates of exchange. Beginning September, 1930, London prices; compiled from Broomhall's Corn Trade News.

TABLE 15

PRICE OF ENGLISH MALTING BARLEY AT HULL, ENGLAND; IN DOLLARS PER  
HUNDRED POUNDS; MONTHLY 1921-1930

Crop year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Average Sept.- April
1921-22.....	.....	.....	2.85*	2.95	2.51	2.57	2.15	2.00	2.13	2.20	2.22	.....	2.34
1922-23.....	.....	.....	.....	1.83	2.05	2.00	1.85	1.99	1.85	1.68	1.87	1.96*	1.89
1923-24.....	.....	.....	.....	2.02	1.81	1.79	1.90	2.01	2.19	2.22	2.25	.....	2.02
1924-25.....	.....	.....	.....	3.22	3.22	3.09	2.74	2.78	2.61	2.30	.....	.....	2.85
1925-26.....	.....	.....	2.64*	2.43	2.27	2.27	2.27	2.17	1.87	1.76	1.97	2.01	2.13
1926-27.....	.....	.....	.....	2.06*	2.14	2.38	2.33	2.37	2.38	2.38	2.38	.....	2.30
1927-28.....	.....	.....	.....	2.50	2.47	2.39	2.40	2.39	2.39	2.40	2.40	2.40	2.42
1928-29.....	2.40*	.....	.....	2.31	2.22	2.19	2.17	2.15	2.17	2.18	2.18	2.18*	2.20
1929-30.....	.....	2.02*	.....	2.00	2.01	1.94	1.80	1.77	1.67	1.68	1.68	.....	1.82
1930-31.....	1.70	1.61	1.61	1.90	2.17	2.18	1.77	1.59	1.67	.....	.....	.....	.....

\* Quotations for one week only.

#### Sources of data:

Quotations expressed in English currency furnished by the courtesy of Mr. Asher Hobson, in charge, Foreign Agricultural Service Division, Bureau of Agricultural Economics, U. S. Department of Agriculture, converted by the writer at monthly average rates of exchange. Beginning June, 1930, London prices, compiled from Broomhall's Corn Trade News.

TABLE 16

WORLD BARLEY PRODUCTION BY PRINCIPAL COUNTRIES; IN MILLIONS OF BUSHEL; 1910-1930

Years	United States	Russia†	Germany	Roumania	Canada	India	Spain	Northern Africa	Others	World production, excluding Russia and China
1910	174	488	133	29	29	.....	76	63	738	1,242
1911	160	437	145	26	44	.....	87	74	790	1,326
1912	224	496	160	21	49	.....	60	47	784	1,345
1913	178	600	169	27	48	.....	69	71	838	1,400
1914	195	433‡	144	26	36	125	72	52	563	1,213
1915	229	429§	114	29	54	143	84	93	498	1,244
1916	182	305¶	128	30	43	148	87	87	496	1,201
1917	212	325	90	.....	55	156	78	82	497	1,170
1918	256	.....	94	5	77	156	90	117	482	1,277
1919	148	.....	88	32	56	130	82	70	514	1,120
1920	189	216	82	68	63	150	90	59	551	1,252
1921	155	118	89	44	60	117	89	95	591	1,240
1922	182	176	74	94	72	146	78	58	602	1,306
1923	198	196	108	61	77	145	112	108	607	1,416
1924	182	181	110	31	89	137	84	87	592	1,312
1925	214	262	119	47	87	123	99	109	688	1,486
1926	185	241	113	77	100	121	96	77	673	1,442
1927	266	202	126	58	97	119	92	87	633	1,478
1928	357	245	154	69	136	98	83	112	708	1,717
1929*	307	.....	146	126	102	.....	97	.....	.....	.....
1930*	328	.....	.....	.....	138	.....	.....	.....	.....	.....

\* Preliminary

† Includes all Russian territory for years shown.

‡ Excludes Russian Poland and the province of Batum in Transcaucasia.

§ Excludes Russian Poland, Lithuania, parts of present Latvia and the Ukraine and two provinces of Transcaucasia.

¶ Beginning the present boundaries of the Union of Socialist Soviet Republics including Turkestan, Transcaucasia, and the Far East.

|| Post-war boundaries beginning this year, therefore not comparable with earlier years.

Sources of data:

U. S. Dept. Agr. Yearbook of Agriculture 1930: 654, 1930, except for Northern Africa, which was compiled from the yearbooks of the International Institute of Agriculture, Rome, Italy.

TABLE 17

UNITED KINGDOM BARLEY PRODUCTION AND IMPORTS, 1921-1930

Years	Production	Imports July-June	Total supply
	1,000 tons*	1,000 tons	1,000 tons
1921-22.....	1,350	809	2,159
1922-23.....	1,390	930	2,320
1923-24.....	1,370	1,047	2,417
1924-25.....	1,400	994	2,394
1925-26.....	1,440	858	2,298
1926-27.....	1,310	712	2,022
1927-28.....	1,220	796	2,016
1928-29.....	1,400	756	2,156
1929-30.....	.....	716	.....

\* Converted from quarters of 400 pounds to tons of 2,000 pounds.

Source of data:

Production compiled from Broomhall's Corn Trade Year Book, annual numbers. Imports from table 19.

TABLE 18  
STOCKS OF BARLEY IN CALIFORNIA WAREHOUSES,\* DECEMBER 1 AND JUNE 1,  
1910-1930

Crop year	December 1	June 1
	<i>tons</i>	<i>tons</i>
1910-11.....	380,414	44,828
1911-12.....	187,539	35,842
1912-13.....	274,876	107,081
1913-14.....	196,133	53,503
1914-15.....	444,130	108,758
1915-16.....	351,549	83,973
1916-17.....	241,756	16,137
1917-18.....	340,768	22,595
1918-19.....	385,966	81,609
1919-20.....	230,232	30,668
1920-21.....	338,195	121,176
1921-22.....	252,967	47,106
1922-23.....	255,952	37,733
1923-24.....	249,083	56,541
1924-25.....	145,605	32,646
1925-26.....	367,227	130,459
1926-27.....	338,171	43,941
1927-28.....	141,906	24,030
1928-29.....	254,851	70,352
1929-30.....	341,987	84,308
1930-31.....	350,159	.....

\* Stocks held in farmers' private granaries not included.

Source of data:

San Francisco Chamber of Commerce, Special report compiled by the Grain Trade Association, Dec. 15, 1920. J. Sullivan, Chief Inspector.

TABLE 19  
BARLEY IMPORTS INTO GREAT BRITAIN; IN THOUSANDS OF TONS; BY MONTHS,  
1921-1930

Crop year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	Total
1921-22.....	....	....	....	....	....	....	....	....	....	....	....	....	809
1922-23.....	45	52	68	114	117	99	111	85	65	61	55	58	930
1923-24.....	54	65	125	138	101	95	70	78	76	81	81	83	1,047
1924-25.....	94	100	127	166	158	102	98	43	32	26	24	24	994
1925-26.....	19	49	140	171	149	98	56	43	32	32	35	34	858
1926-27.....	42	71	101	57	74	67	66	27	52	69	39	47	712
1927-28.....	36†	....	356*	....	141	82	44	33	42	33	27	2	796
1928-29.....	42	79	129	119	82	75	38	37	42	60	30	23	756
1929-30.....	37	79	92	108	64	61	53	29	41	62	44	46	716
1930-31.....	43	47	68	....	....	....	....	....	....	....	....	....	....

† Estimated by writer.

\* Total for August, September, and October.

Source of data:

1922-23 to 1926-27 U. S. Dept. Agr., Bur. Agr. Econ. Foreign Crops and Markets 15:15:518-520. Oct. 10, 1927.

1927-28 to 1930-31 International Institute of Agriculture. International Review of Agriculture, Monthly Crop Report and Agricultural Statistics. Monthly issues.

TABLE 20

PRICE OF NO. 3 MIXED CORN AT CHICAGO; IN DOLLARS PER BUSHEL; MONTHLY  
1910-1930

Crop year	Monthly averages, dollars per bushel												Crop-year average	
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Dollars per bushel	Dollars per hundred lbs.*
1910-11	0.559	0.496	0.492	0.466	0.455	0.453	0.448	0.492	0.533	0.543	0.636	0.644	0.518	0.925
1911-12	0.669	0.719	0.695	0.638	0.619	0.639	0.668	0.768	0.755	0.736	0.720	0.762	0.699	1.248
1912-13	0.742	0.652	0.546	0.482	0.478	0.487	0.492	0.545	0.572	0.601	0.615	0.726	0.578	1.032
1913-14	0.754	0.699	0.713	0.685	0.618	0.622	0.639	0.668	0.689	0.716	0.714	0.818	0.695	1.241
1914-15	0.791	0.732	0.700	0.638	0.711	0.740	0.717	0.745	0.759	0.742	0.782	0.799	0.738	1.318
1915-16	0.752	0.642	0.634	0.676	0.735	0.749	0.710	0.750	0.737	0.727	0.801	0.852	0.730	1.304
1916-17	0.857	0.928	0.992	0.922	0.977	0.992	1.096	1.415	1.641	1.673	1.964	2.012	1.289	2.302
1917-18	2.089	1.967	2.051	1.700	1.730	1.696	1.622	1.678	1.600	1.550	1.656	1.665	1.750	3.125
1918-19	1.540	1.342	1.273	1.441	1.375	1.272	1.461	1.607	1.731	1.761	1.888	1.952	1.554	2.775
1919-20	1.550	1.401	1.475	1.459	1.460	1.416	1.555	1.678	1.990	1.881	1.605	1.562	1.586	2.832
1920-21	1.364	0.939	0.805	0.716	0.664	0.627	0.633	0.563	0.593	0.626	0.608	0.562	0.725	1.295
1921-22	0.536	0.450	0.467	0.478	0.476	0.528	0.572	0.581	0.613	0.605	0.638	0.619	0.547	0.977
1922-23	0.628	0.686	0.700	0.723	0.706	0.721	0.724	0.792	0.812	0.822	0.840	0.876	0.753	1.345
1923-24	0.887	1.026	0.828	0.711	0.749	0.777	0.768	0.774	0.766	0.835	1.045	1.157	0.860	1.536
1924-25	1.165	1.094	1.107	1.198	1.208	1.182	1.120	1.020	1.112	1.092	1.061	1.043	1.117	1.995
1925-26	0.903	0.819	0.838	0.769	0.773	0.727	0.698	0.709	0.693	0.689	0.786	0.784	0.766	1.368
1926-27	0.781	0.766	0.697	0.745	0.704	0.706	0.676	0.695	0.850	0.980	0.999	1.065	0.805	1.438
1927-28	0.974	0.862	0.846	0.852	0.857	0.937	0.971	1.012	1.056	1.019	1.058	0.955	0.950	1.696
1928-29	0.981	0.907	0.837	0.835	0.901	0.937	0.925	0.885	0.855	0.910	0.986	0.995	0.913	1.630
1929-30	1.005	0.959	0.900	0.891	0.841	0.803	0.781	0.806	0.790	0.784	0.807	0.979	0.862	1.539
1930-31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\* Price per bushel converted at 56 pounds per bushel.

Sources of data:

1910-1929 Compiled from cash prices as given in the Chicago Board of Trade Reports of the Trade and Commerce of Chicago. Annual issues.

1930-1931 No. 3 yellow from U. S. Dept. Agr., Bur. Agr. Econ., Crops and Markets, monthly issues.